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ECONOMIC COMMISSION FOR AFRICA

SECOND ZAIRE ROUND TABLE
ON THE PARTICULAR PROBLEMS FACING ZAIRE
WITH REGARD TO TRANSPORT AND TRANSIT

Kinshasa, (Zaire) 29-31 October, 1986

VOLUME II
PRESENTATION OF TRANSPORT PROJECTS

UNITED NATIONS

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SECOND ZAIRE ROUND-TABLE ON TRANSPORT AND TRANSIT

VOLUME II

PRIORITY TRANSPORT PROJECTS

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SECOND ZAIRE ROUND-TABLE ON TRANSPORT AND TRANSIT

VOLUME II

PRESENTATION OF TRANSPORT PROJECTS

SECOND ZAIRE ROUND-TABLE

VOLUME II

I. INTRODUCTION

INTRODUCTION

An ECA mission visited Zaire to compile the data needed for the preparation of the second Round-Table on the Financing of Transport Projects of Zaire. The Department des Transports et Communications (Transport and Communications Department), the Office des Routes (Highway Authority) and the Groupe d'Etudes des Transports (Transport Study Group) were very helpful in providing information on the projects which are being submitted to the second Round-Table for financing.

This volume is therefore a working document and may be elaborated during the meeting which will be attended by representatives of the main Zairian departments and state agencies involved. It contains useful information on eight public corporations responsible for various modes of transport in Zaire: the Office National des Transport (ONATRA) (National Transport Authority), the Compagnie Maritime Zairoise (CMZ) (Zaire Shipping Company), the Regie des Voies Fluviales (RVF) (Inland Waterways Authority), la Regie des Voies Maritimes (RVM) (Maritime Navigation), the Regie des Voies Aeriennes (RVA) (Civil Aviation), the Office de Gestion du fret maritime (OGEFREM) (Maritime Freight Co-ordination), the Societe Nationale des Chemins de Fer du Zaire (SNCZ) (National Railway Company) and the Office des Routes (Highway Authority).

SECOND ZAIRE ROUND-TABLE

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(a) NATIONAL TRANSPORT ORGANIZATION (ONATRA)

1. ONATRA

1.1 Status of Projects Selected During the First Round-Table Held in Kinshasa on 28 and 29 July 1983

Eleven ONATRA projects were selected during the First Round-Table on the Financing of Transport Projects held in Kinshasa on 28 and 29 June 1983.

So far, eight projects are in the process of being implemented and work on many of them is far advanced. On the other hand, three projects have not yet commenced: two have been discontinued (301 and 203-03) and one is still without financing (602).

The amounts given (cf. table) for the projects are in US dollars. They were obtained by converting the Zaires at the official exchange rate which was determined each year by calculating the average monthly exchange rates for the twelve months. The exchange rates are as follows:

1983	:	$1 =	Z 14.19
1984	:	$1 =	Z 36.43
1985	:	$1 =	Z 50.59
1986 (1st quarter)	:	$1 =	Z 55.60

ONATRA

PROJECT			WORKS IMPLEMENTED (in US $ 1,000)					
NATURE	FYP N°	Round TABLE N°	1983	1984	1985	1986 (1st quarter)	TOTAL	REMARKS
1. Inland Waterway logistics	204	26	1,097.98	912.96	516.39	115.88	2,642.41 (Z 146.910.000)	
2. Ndolo and Boma Shipyard Equip.	704	27	131.71	514.88	240.03	7.86	894.48 (Z 49.733.000)	
3. Passenger and Bulk cargo transport	201	37	3,110.29	10.170.44	8,145.46	2,495.47	21.921.66 (Z 1.218.844.000)	
4. Electrification of the Matadi Kinshasa line	301	38	-	-	-	-	-	Suspended
5. Renewal of the Matadi-Kinshasa line	307	39	1,397.74	4,038.65	3,760.60	114.19	9,711.26 (Z 539.945.000)	
6. Extension of the Port of Matadi	601	40	657.22	909.56	2,738.06	128.60	4,524.34 (Z 251.553.000)	
7. Extension of the Port of Kinshasa	603	41	154.33	2,546.66	4,026.82	1,670.40	8,398.21 (Z 466.940.000)	
8. Construction of grain wharf in Matadi	602	42	-	-	-	-	-	Without financing
9. Development of a river Station at Kisangani	203-03	43	-	-	-	-	-	Suspended
10. Extension and Replacement of rolling Stock	304	44	614.73	933.68	5,202.29	630.40	21,921.55 (Z 1.218.844.000)	

1.2 Priority Projects of the Five-Year Plan for which Financing is to be Sought

There are twelve main ONATRA projects for which financing has to be secured.

They total 2,942,931,000 Zaires of which 2,442,900,000 Zaires in foreign exchange are required (cf. details are provided in the following pages).

INLAND WATERWAYS

PROJECT		SUB-PROJECTS		AMOUNT (IN $ 1,000)		
FYP No.	NATURE	FYP No.	NATURE	FOR EXCH.	LOCAL	TOTAL
201	Improvement of passenger transport	201-01	Procurement of 2 ITB pushers	123.374	29.156	152.530
		201-08	Construction of 2 container	29.666	9.632	39.298
		201-10	Construction of 14 improved BA barges	174.771	58.257	233.029
		201-13	Construction of 5 G type push boats	146.250	48.750	195.000
		201-16	Construction of 2 improved MU type barges	36.149	11.738	47.887
			S/T	510.210	157.533	667.743
202	Dry and bulk cargo transport	202-16	Procurement of 30 650-T barges	126.162	42.054	168.216
		202-17	Construction of 15 timber pontoons	78.824	962	79.786
		202-19	Procurement of 5 pushers	204.986	43.016	248.002
203	Development of port facilities	203-07	Procurement of 201 mobile cranes	6.000	---	6.000
			S/T	6.000	---	6.000
			TOTAL	721.196	200.549	921.745

PORTS

PROJECT		SUB-PROJECTS		AMOUNT (in Z 1,000)		
FYP No.	NATURE	FYP No.	NATURE	FOR EXCH.	LOCAL	TOTAL
	Extension of port of Matadi	601-04	Covering the Kala-Canal	11.928	48.743	60.671
602	Matadi grain wharf	602-02	Construction of the Kala-Kala Grain wharf	92.989	86.378	179.367
		602-03	Monitoring and acceptance of works	4.000	2.000	6.000
			S/T	96.989	88.378	185.367
603	Extension of Port of Kinshasa	603-14	Acceptance of Kisangani wharf	1.600	29.014	30.614
			S/T	1.600	29.014	30.614
606	Purchase of handling machinery	606-01	5T diesel elevators with lateral clamps	10.746	1.611	12.357
		606-02	15 T diesel elevators with frontal clamps	64.248	10.054	74.302
		606-03	4 T MAT simple and triple-triplex F.F. elevators	84.446	12.258	96.704
		606-07	Diesel farming tractors	50.902	7.338	58.240
		606-08	Cargo and container trailers	24.362	3.657	28.019
			S/T	234.704	34.918	269.622
			TOTAL	345.221	201.053	546.274

RAILWAYS

PROJECT		SUB-PROJECTS		TOTAL (in 1,000 Z)		
FYP No.	NATURE	FYP No.	NATURE	D	L	T
302	Signalling and electrical installations	302-03	Low voltage installations at stations	1.375	1.545	2.920
		302-04	Electric generators, medium voltage cabines and cables	7.348	9.194	16.542
			S/T	8.723	10.739	19.462
303	Replacement of telephone exchanges and cables	303-02	Replacement of telecoms. equip.	36.602	4.496	41.098
			S/T	36.602	4.496	41.098
304	Rolling stock	304-06	Purchase of 20 20' isothermic containers and 20 40' refrigerated containers	40.000	1.200	41.200
		304-11	Purchase of 40 bogies for passenger coaches	65.354	1.691	67.045
		304-12	Supply and mounting of roller bearing axle boxes	56.748	17.437	74.185
		304-22	Purchase of 9 2,400 HP locomotive	858.600	25.758	884.358
			S/T	1.020.702	46.086	1,066.788
307	Rehabilitation of the Kinshasa-Matadi Railwayline	307-04	Renewal and extension of specialized equipment for mechanized track maintenance	72.914	2.187	75.101
		307-06	Rehabilitation of concrete sleepers plant	25.418	763	26.181
			S/T	98.332	2.950	101.282
309	Replacement of vehicles and track motor cars, trolleys.	309-04	Purchase of quarry equipment and earth moving equipment	94.260	4.092	98.352
			TOTAL	1,258.619	68.363	1,326.982

SUMMARY TABLE

SECTOR	FOR EXCH. D	TOTAL LOCAL L	(in 1,000 Z) TOTAL T
1. INLAND WATERWAYS	721.196	200.549	921.745
2. PORTS	345.221	201.053	546.274
3. RAILWAYS	1.258.619	68.363	1,326,982
TOTAL	2.325.036	469.965	2.795.001

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SECOND ZAIRE ROUND-TABLE

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(b) NATIONAL SHIPPING (CMZ)

2. C.M.Z. (Compagnie Maritime Zairoise)

2.1 Status of Projects Selected During the First Round-Table Held in Kinsahsa on 28 and 29 June 1983

Project No. 21 - Assistance to the C.M.Z.

Total estimated cost: US$180,000

This project was never implemented. The three expatriates now being utilized by the C.M.Z. were seconded under an agreement between the Executive Council and the Compagnie Maritime Belge (C.M.B.)

2.2. Priority Projects of the Five-Year Plan for which Financing is to be sought

In 1985, the C.M.Z. drew up a rehabilitation programme with well-defined objectives in the commercial, administrative, technical and financial fields and in the area of training of ground personnel. This programme from which the following five projects were initially selected is being submitted to the various donors:

1. Shore-gang: workshop for ship maintenance at Matadi;
2. Renewal of fleet;
3. Containers
4. Training of ground personnel;
5. Data processing.

1. Construction of a workshop at Matadi for ship maintenance with centralized administrative and technical services of the company at Matadi

The C.M.Z. would like to have, at its home port, technical maintenance facilities for its fleet and any foreign vessels that might call at the port of Matadi.

At present, dry-docking operations and minor technical repairs are done abroad. the construction of a workshop at Matadi would reduce ship maintenance and repair costs considerably. The supply of similar services for foreign vessels would guarantee the profitability of this operation.

Three sections are envisaged:

- Mechanical engineering and boiler works
- Electricity and refrigeration
- Electronics

Compared to maintenance costs at workshops abroad, the services of the Matadi workshop would be far cheaper because of low labour costs.

Besides, this workshop would be of additional assistance to sea-going personnel by reducing their workload to the minimum. It could also carry out repairs for certain companies (ONATRA, private companies and others) and would provide a source of income for the C.M.Z. through its services.

Three sections are envisaged:

- Mechanical engineering and boiler works

- Electricity and refrigeration

- Electronics

The total cost of the project including workshop complex and offices, is estimated at B Fr 37,150,000 Z 80,000,000. The share in local currency will be entirely financed by the company and the foreign exchange will be provided by foreign partners.

2. Renewal of the fleet

It has been decided that three vessels will be built over a period of six years, between 1987 and 1993), at the rate of one vessel every two years.

The renewal of the fleet is justified by the fact that the present fleet can no longer cope with the present-day trend of world maritime trade which is to use container carrying vessels that take about 1,700 containers. Those at the C.M.Z. with a 15,000 T capacity can only take 150 20 ft containers on the "LU" type vessels and 250 20 ft containers on the Kananga, i.e. 7,000 to 8,000 T maximum load. In addition, the C.M.Z. vessels are already very old and can no longer meet new technological requirements, hence operating costs are prohibitive because of:

- high fuel consumption (27 to 40.9 T of fuel per day);

- lengthy stays at ports;

- substantial delays for technical servicing.

The total cost of the project is estimated at US$80.5 million.

3. Increasing the number of containers

There are plans to replace the old containers with new ones and thus increase load capacity and improve the transport of goods. In view of the high cost of container rental and repair and in order to adapt gradually to the new trend of maritime transport, the C.M.Z. should procure its own containers which should make up at least 2/3 of the company's present fleet. Consequently, the purchase of 400 dry cargo and refrigerated containers has been envisaged. The cost is estimated at approximately B Fr. 100 million.

4. Training of ground personnel

The training of ground personnel in general fields: commercial, container management, accounting, etc. has been planned.

The company thus hopes to improve staff supervision and guidance and to ensure that its staff adapt to the exigencies of technological progress, and maintain and increase their skills and professional experience. Total estimated cost is B Fr. 1 million.

5. Computerization of c.m.z. management by the procurement of more efficient data processing equipment

With the data processing system, the C.M.Z. expects to play its shipping role by controlling expenditure and income so as to better appraise the profitability of CMZ freight operations as against costs.

The company thereby hopes to improve its accounting and procurement procedures. To complete this project, the training of data processing staff is also envisaged. Total cost is estimated at B Fr 15,000,000.

SECOND ZAIRE ROUND-TABLE

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(c) INLAND WATERWAYS
(RVF)

3. R.V.F. (Regie des Voies Fluviales)

During the Round Table held in Kinshasa on 28 and 29 June 1983, five R.V.F. projects were selected:

Project Number 05: Renovation of R.V.F.'s equipment;

Project Number 06: Procurement of Beacon Layers for Kinshasa-Kissangani Waterway;

Project Number 23: Replenishment of a Stock of Spare Parts for RVF Equipment Maintenance and Shipyard Modernization;

Project Number 35: Development of Rocky Channels in the Kasai River;

Project Number 36: Study for the Development of the Sandy Regions of the Kasai River;

With the assistance of a consultant and financing from the World Bank, the Regie des Voies Fluviales drew up an investment programme for 1986-1991 into which the R.V.F. 1986-1990 Five Year Plan was incorporated.

The estimated cost was worked out during discussions between the R.V.F. and the World Bank mission which visited Zaire from 17 July to 14 August 1985.

The other parties concerned with the project, in particular, the Belgian and American aid agencies and the Departments of Transport, Communications and Planning, took part in the discussions. The cost of the 1986-1991 programme totals 1,245.3 million Zaires at constant prices as at 31 August 1985 (price fluctuations and contingencies included). The foreign exchange component of the programme, i.e. 895.4 million Zaires, will be financed by bilateral (mostly Belgian and American) and multilateral (I.D.A.) aid.

This programme covers the projects under the point above and their status is given in the following pages.

Project No. 05: Renovation of RVF's Equipment

This project concerns the overhauling of:

- three hydrography boats;

- five push-tugs;

- dredgers I and II;

Beacon Layer III.

It is included in the R.V.F.'s investment programme under the title "renovation and reconditioning of the existing fleet", (code 305).

What is involved is the rehabilitation of the Ndeke Moko, the Botiaki Tembe and the Lopori hydrography boats provided for under the R.V.F. investment programme code 305, rather than the procurement of new units which are included in the programme under code 205 "Procurement of new floating gear".

The profiles prepared for these units to be repaired are currently being revised and should be completed at the end of this month of June 1986. This will be followed by an evaluation of costs and time-table for repairs. Actual work is scheduled to begin in January 1987.

The overhauling of the tugs and push-tugs should also begin in January 1987 as soon as the profiles are revised and costs estimated.

On the basis of the economic study on the R.V.F. projects conducted by BCEOM, the World Bank feels there is no justification for acquiring a second dredger. A final decision will be taken during negotiations between the Regie and the World Bank in Washington.

The Beacon Layer III is now at the Regie's shipyard at Ndolo for dry-docking. The work which should be completed in 1987 has already begun with local financing.

Project No. 06: Procurement of Beacon Layers for Kinshasa-Kisangani Waterway

The aim of this project is to acquire three beacon layers to make the Zaire River between Kinshasa and Kisangani navigable once again.

It was modified in the R.V.F.'s 1986-1991 programme by placing greater emphasis on renovation and reconditioning of the existing fleet (code 305). What is involved is the rehabilitation of the tug-boat BUSIRA and the accommodation boat. As far as the beacon layer of the affluent type is concerned, it comes under a sub-project for the procurement of new floating gear (code 205) and will be used for beaconing of the tributaries of the Zaire and Kasai Rivers. The relevant specifications have been prepared and the estimated cost is 60 million Zaires, delivered in Kinshasa (April 1986).

The internal rate of return for the beaconing of the Zaire river is very high i.e. 108 or 103 per cent, depending on whether inland water traffic growth rate is estimated to be low or high and 96 per cent on the assumption that it will remain at a standstill.

A detailed description of the repairs has been done by the consultant and the final costs for this revised project are expected to be ready by the end of June 1986.

Project No. 23: Replenishment of the stock of spare parts for R.V.F. Equipment Maintenance and Shipyard Modernization

This project comprises the following sub-projeccts:

- replenishment of stock
- shipyard handling machinery
- machine tools

These sub-projects are mentioned under the same headings in the programme referred to earlier.

Replenishment of stock (Code 301)

The profiles have now been completed. One last checking remains to be done to ensure consistency with the project's aims and determine the costs of the various components.

Shipyard Handling Machinery (Code 303-304)

The estimated prices as at April 1986 were as follows (in millions of Zaires):

- 6-7 T lift truck	:	3.1
- tractor + trailer	:	0.5
- dump truck	:	3.1
- slipway crane	:	12.5

Following detailed technical specifications, the slipway crane which is mobile was preferred to the initially envisaged stationary crane which costs twice as much.

These estimates fall within the price limits originally anticipated. Belgium is interested in all these items and will apply the same lending conditions as the World Bank. The Washington talks will help to determine the first disbursement of funds for these sub-projects.

Machine tools (Code 302)

The American and Belgian donors are interested in the machine tools component. The list of equipment to be supplied by Belgian aid consists of electric chisels and jacks, drills, saws, etc.. The total amount is estimated at 11 million Zaires (April 1986).

As for as American intention is concerned, the list of spare parts to be supplied has not been completed. US$ 1,097,000 has already been earmarked by USAID for this purpose.

The realization of these projects depends on the release of funds by the donors (USAID and AGCD in particular).

Project No. 35: Development of Rocky Channels in the Kasai River

This project aims at improving the rocky channels in the Kasai. Initially it consisted of sending a mission of experts to prepare hydrographical surveys and determine the best navigation route, but was modified and strengthened in the new R.V.F. programme. It involves a series of sub-projects for the improvement of the Rocky Channels in the Kasai River. They are as follow:

Description	Code	Amount in millions of Zaires
Studies on the Rocky Channels in the Kasai River	201.02	3.6
Laying of fixed beacons in the Kasai	203.02	
Beaconing of the rocky channels of the Kasai River	203.04	9.0
Rehabilitation of the fleet	305	25.5
		38.1

Beaconing operations are underway while the studies and rehabilitation of the fleet will commence as soon the consultant submits a detailed description of the units to be repaired and the cost estimates for the various components. The consultant was expected to begin work on 30 June 1986.

The project of the rocky channels is profitable. In fact the internal rate of return will be 68 per cent and 69 per cent depending on whether the traffic growth forecast is low or high and 66 per cent if it remains at a standstill.

Project No. 36: Study for the development of the Sandy Regions of the Kasai River

This study is a sub-project of "Hydrographic studies" Code 201 of the RVF investment programme. It appears under Code 201.05 with the heading "Sandy Regions of the Kasai River". It consists of studying the hydrographical and sedimentological conditions of the sandy regions of the Kasai River in order to determine the type of equipment needed to maintain proper conditions for

navigation in these regions. In other words, hydrological, hydrographical and sedimentological data will have to be collected in order to determine, on the basis of technical and economic studies, what type of equipment would be appropriate for operations in the sandy regions.

Belgium, which showed interest in this project initially, seems to be more interested in the rocky channels. A solution should be found during the discussions that the RVF should be holding shortly with the Belgian donors in Brussels.

In the absence of a solution, the project might be delayed by one year; this would be disadvantageous since cost estimates would have to be revised upwards.

Granting of the loan implies the negotiation and signing of a special agreement between Belgium and Zaire, defining the purpose as well as the responsibilities of each of the party, and the terms of application. The negotiations should have taken place in June 1986 before the Belgian-Zairean Joint Commission met in Brussels in July 1986.

The Belgian component of the RVF's investment programme is a complete project that can be implemented independently of the other RVF operations. It forms part of the overall programme and focusses on the improvement of navigation along the Kasai River.

It should be noted that the implementation of the Belgian component of the project, particularly the "loan" portion will be effected according to the usual World Bank practices. Due to lack of better loan conditions, the AGCD applies the same terms as the World Bank.

The consultant has been called upon to supply detailed technical specifications which have not yet been completed and an estimate of costs for the various components by 30 June 1986.

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(d) WATERWAY NAVIGATION (RVM)

4. R.V.M. (Regie des Voies Maritimes)

4.1 Status of Projects Selected at the first Round-Table held on 28 and 29 June 1983

Six RVM projects were selected at the Round-Table held in Kinshasa on 28 and 29 June 1983. The six projects and their status are described below.

Project No. 7: Outfitting and Replacement of the Equipment of the Maintenance Units for Dredging Operations in the Zaire's Maritime Reaches

a. Nature and component of the project

a.1 Topography

The investments provided for this sector cover:

- a new boat estimated at Z 6 million to be procured in 1988;
- procurement of a number of topography equipment including distomat, levels, theodolites, programmable computers and reflecctors. The cost of this equipment estimated at Z 10,500,000 was financed entirely by the R.V.M. during the 1986 financial year;
- the reconditioning, this year, of the LONGO Unit costing Z 1,860,000,000 was financed by R.V.M.

a.2 Bathymetry

The new techniques proposed by the P.A.B./SOFREMER Consultant to improve working methods in bathymetry repair the following investments:

- procurement of three reconditioned depth-finding boats estimated at Z 6 million. This investment, for which financing is to be sought, is scheduled for 1987 under the RVM Five Year Plan;
- purchase of a fully outfitted boat costing Z 24,000,000. Project implementation is scheduled for 1987 and 1988 and will be financed through a loan to be sought;
- procurement of radio location equipment estimated at Z 10,200,000. A portion of this was provided this year by R.V.M. and the balance of Z 5,700,000 will be financed in 1987 by a loan to be sought.

a.3 Sedimentology and Hydrometry

Investments planned under this sector comprise:

- the purchase of a catamaran type boat to replace the catamaran "LABOMA" formerly used to take hydrometric measurements.

During the Belgian-Zairean Joint Commission meeting held last year, the Belgians officially informed the Zaireans that the sum of B.Fr. 15,000,000 had been included in their Aid budget to supply this unit in 1986 to the Regie des Voies Maritimes. When acquired, this boat will be able to assist the "TSHIKAPA" in specialized areas for which it is not equipped; i.e.:

- the purchase of sedimentology equipment estimated at Z 1,200,000 is expected to be purchased in 1986. The equipment will enable the laboratory that tests sediment samples to improve its performance;

- renovation of the TSHIKAPA this year at an estimated cost of Z 1,200,000. The renovation was entirely financed and carried out by the R.V.M.;

- procurement of radio-location equipment for the TSHIKAPA, a hydrographic depth finder, V.H.F. link, winch current meters and self-recording current meters to measure the direction of undercurrents. This equipment valued at Z 3,000,000 is envisaged for 1987 under the Five-Year Plan. Financing is to be sought;

- procurement, in 1988, of equipment for three hydrometeorological stations estimated at Z 1,200,000. Financing is to be sought.

Project No. 8: Equipment for the Beaconing Unit: Nature and Components

Investments for the Beaconing Unit concern:

- the procurement of two light-weight beacon-laying boats for light control. This project is included in the 1986-1990 Five-Year Plan and one of the boats is expected to refuel the dredgers at the dredging site in addition to beacon laying. It is hoped that this unit will be purchased in 1988 with financing to be sought between 1987 and 1988. The estimated cost is Z 60,000,000. The other beacon layer estimated at Z 21,000,000 also features in the Five-Year Plan for procurement in 1989; it will be financed over a two-year period i.e. 1988 and 1989.

- Procurement of the following light beacon equipment:

- 60 gas lamps totalling Z 10,800,000. Half the number is to be purchased in 1987 and the remaining half in 1988, with financing to be sought.

- 71 light buoys to be acquired between now and 1988. The estimated cost is Z 49,800,000.

- Solar panels and signalling lights costing Z 6,000,000, to be acquired in 1986 with local financing.

Project No. 9: Equipment for the Pilot Unit Nature and Components

During the Round-Table in Kinshasa in 1983, procurement of the following was proposed for the Pilot Unit:

- 4 high-speed boats (28-30 knots) equipped with diesel engines. The Regie des Voies Maritimes preferred to recondition the four existing units; the work was done this year at its shipyard and cost approximately Z 7,500,000.

- Also included in the 1986-1990 Five-Year Plan is the procurement of a high-speed aluminium boat estimated at Z 9,000,000 and a high-power pilot boat for Banana costing Z 18,000,000 to be purchased over a two-year period (1987/1988).

- 4 cross-country vehicles equipped with diesel engines for pilots to travel between the ports of Banana, Boma and Matadi to take charge of the vessels. Owing to the poor state of roads in the region, the vehicles assigned to this Unit must be replaced annually; the cost of this operation is approximately Z 3,200,000.

Project No. 19: Technical Assistance and Training of R.V.M. Staff

1. Training programme

The training programme for 1986-1990 was drawn up by the R.V.M. with the help of an O.R.T. consultant. The general aim is to:

(a) improve the professional skills of staff who were selected during the preparation of the project;

(b) train new technical staff to replace those who are due for retirement (350) and/or to strengthen the staff establishment in conformity with the R.V.M. development plan for the period concerned.

This programme involves:

(i) the training in Zaire of 250 technical staff in several specialized fields (hydro-beaconing, topography, cartography, general engineering, diesel auto-mechanics, radio-communications, electronics electro-mechanics, engines, electrical engineering, accounting, staff management planning, data-processing, inventory control, personnel management, training management, etc.).

Emphasis would be placed, moreover, on seminars on the organization of work and management which would be organized for heads of department and supervisory staff at such local training institutions as CEPETEDE, INPP and CEMACOF with the assistance of the training expert provided for under this project.

(ii) Training abroad of 50 senior staff in specific operations and management techniques for which local training would be difficult.

2. Implementation of the training programme

Training in the specific areas of beacon laying and hydrography will be conducted at the RVM in Zaire. Training in other specialized fields will also be organized at training centres in Zaire.

Training abroad will consist of 50 scholarships: 9 for management and 41 for operations. There will be retraining in new techniques, including light beaconing, processing of hydrographical data, radio-navigation (Syledis), automatic tracing of maps, dredging techniques, shipyard management and hydropneumatic equipment.

3. Technical assistance

To set up training structures and assist the officials who will be responsible for applying the policy that will be defined by the General Directorate, external aid is indispensable. Technical assistance experts will not merely conduct training activities and then leave, they will also have to assist the RVM staff so that the latter can take over the training activities themselves.

Technical assistance in training will be centred on the establishment of the training structures, on the initial implementation phase of priority activities which include the training of counterparts, and on the joint formulation of a programme to be carried out by the trained counterparts after the departure of the Technical Assistance experts (1987). The Technical Assistance staff will comprise one project director, specialized instructors and various technical assistance missions depending on the RVM's needs. The total cost of these activities was estimated at US$ 665,000 for the entire period (1986-1990) including US$ 5,000 in local currency.

Project No. 24: Procurement of a hydraulic shovel dredger with barges

The advantage of this dredger is that it can be used to clean out ports whenever it is not needed to open up a new channel. At present, cleaning operations are being performed by the old BUTA dredger for which a large amount of coal has been stocked. Towards the end of the 1986-1990 Five-Year Plan, it is hoped that a dredger with hydraulic shovel estimated at $1,680,000 will be procured over a period of two years.

Project No. 25: Equipment for RVM shipyard

This project comprises the improvement and extension of workshops, providing better access to the floating dock; the renovation of slipways, and improvement of compressed air supply for the floating dry dock.

The total investment was estimated at US$ 500,000. It should be noted that the RVM shipyard has already taken delivery of the crane for the floating dry dock which was entirely financed by the Regie.

4.2. Priority Projects of the Five-Year Plan for Which Financing is to be Sought

The RVM is requesting external financing for the eight projects described in the following Table.

The sum of Z 15,000,000 pledged by the Belgian Government for the financing of a Catamaran type boat should be deducted from the total amount of Z592,560,000 to be sought from external sources in foreign exchange.

	BUDGET	MODE OF FINANCING					
			LOCAL	EXTERNAL			
	Z	Z	F.EXCH	F.EXCH	Z	F.EXCH	TOTAL
Equipment and furniture	375.100	375.100	--	--	375.100	--	375.100
Vehicles	110.450	110.450	--	--	110.450	--	110.450
Bathymetric equipment	45.900	1.680	15.780	28.440	1.680	44.220	45.900
Topographic equipment	18.360	960	11.640	5.760	13.440	14.760	28.200
Sediment & hydro. equipment	22.380	780	5.400	16.200	780	21.600	22.380
Data processing equipment	6.000	--	6.000	--	--	6.000	6.000
Pilot equipment	34.440	5.220	20.220	9.000	5.220	29.220	34.440
Beacon laying equipment	198.180	40.860	99.720	57.600	40.860	157.320	198.180
Dredger, boat, shipyard equipment & modern	327.600	40.440	2,460	284.700	40.440	287.160	327.600
Studies, consultation and technical assistance	191.700	15.600	--	176.100	15.600	176.100	191.700
Extension coastal station equip. and spare parts	16.800	1.680	15.120	--	1.680	15.120	16.800
TOTAL GENERAL	1.375.110	606.210	176.340	592.560	606.210	768.900	1375.110

The sum of Z 15,000,000 pledged by the Belgian Government for the financing of a Catamaran type boat should be deducted from the total amount of Z 592,560,000 to be sought from external sources in foreign exchange.

5. O.E.B.K. (Organisation pour l'Equipement de Banana-Kinshasa)

5.1 Status of Projects Selected During the First Round-Table held in Kinshasa on 28 and 29 June 1986

The project concerning the construction of the deep water port of Banana and the other projects in the Industrial Port Zone of Banana-Muanda fall under the Inga Free Zone (ZOFI) and not under the O.E.B.K.

5.2 Priority Projects of the Five-Year Plan for which financing is to be sought

The Organisation de l'Equipement de Banana-Kinshasa (O.E.B.K.) is requesting Z 100,000,000 for its MATADI-BANANA Railway Line.

The feasibility study was done in 1972 by a mission from the Overseas Technical Co-operation Agency of Japan. The project has not begun owing to lack of funds.

At present, the engineering studies and construction works remain to be done.

Project cost

The cost of the Matadi-Boma section (59 km) is Z 6,930 million at 1984 prices (see Master Plan for the Development of a Transport System between Kinshasa and Banana).

The relatively high cost of this section is due to the fact that the area is mountainous which means passing through tunnels over a distance of 16 km, i.e. 27 per cent of the total distance, while the BOMA-MOANDA section (89 km) is only Z 4,360 million.

The O.E.B.K. has included in the Five Year Plan the engineering studies totalling Z 100,000,000 (estimated in 1985).

SECOND ZAIRE ROUND-TABLE

VOLUME II

(e) CIVIL AVIATION
(RVA)

6. R.V.A. (Regie des Voies Aeriennes)

6.1 Status of Projects Selected During the Round-Table Held in Kinshasa on 28 and 29 June 1983

Project No. 16 - Improvement of the Lubumbashi Airport

Status of the various sub-projects

(a) Strengthening and extension of runway

The pavement of the runway extension has been completed except for the surfacing of the runway with concrete asphalt. Strengthening of the entire runway remains to be completed. In 1985, the area to be strengthened was reshaped and strengthening operations on an initial section are now underway with financing from the 1986 capital budget (50 million Zaires).

(b) Expansion of traffic area

Works have not commenced.

(c) Light beaconing and electrification of the CER and CRR

Light beaconing has been completed 100 per cent. Electrification of the Radio Transmission Centre financed by the 1986 capital budget should be initiated and completed during the second half of 1986.

(d) Renovation of the passenger terminal building

Works have not commenced.

Project No. 46 - Study of the Master Plan of the Lubumbashi Airport

Works have not commenced.

Project No. 47: Study of the Master Plan of the Kinshasa/Ndjili Airport

This study financed by the French Technical Co-operation is 80 per cent completed (data compilation, traffic forecast, estimate of requirements, the consultant's preliminary report, consultations, options).

It should be completed before the end of 1986.

Project No. 48: Strengthening and extension of the Bukavu Airport Runway

At present 25 per cent of the works envisaged have been completed. An additional section, financed by the 1986 capital budget (65 million Zaires) is underway. The operations involve completion of the earthworks for the runnway being extended and construction of a drainage system under the runway.

Priority Projects of the Five-Year Plan for Which Financing is Required

There are 10 such projects which are described below:

6.2.1 Fire equipment

The Regie des Voies Aeriennes has to equip the airports and aerodromes with fire engines to ensure adequate fire protection for aircraft (8 medium size engines, 17 small engines and 17 first aid vehicles).

Project cost (1985 estimates) for the remaining operations:

Financing (09/85): - Z 179 million in foreign exchange in the form of a loan to be sought;

- Z 33 million from the capital budget.

6.2.2 Use of solar energy

The aim of the project is to use solar energy for air navigation, approach and landing equipment throughout Zaire, and solarization of 21 stations in three phases.

Project cost: (September 1983 estimate) Z 462 million.

Financing (09/85)

External financing to be sought: Z 379 million
Local financing: Z 83 million

6.2.3 Light beaconing

(For Mbuji-Mayim Goma, Kananga, Mbandake, Gemena and Kindu).

The installation of light beacons will make it possible to open airports at night thus ensuring better use of terminal facilities (the extensions that are required at present could be postponed for a long period) and better operation of commercial aircraft.

Project cost (September 1985 estimate): Z 172 million
Financing (09/85)

One donor (the Belgian Government through ADB) is willing to finance the project up to the tune of B.Fr. 127 million (pending letter of intent from the Executive council).

6.2.4. Extension of Parking Area for Aircraft (Passenger/Freight Traffic) at the International Airport of Kinshasa/N'Djili

Establishment of additional operational stands (2 for long distance carriers and four for short and medium distance carriers) in order to avoid difficult or dangerous parking (occupying of taxiway, etc.) as is the case at present, owing to insufficient operational stands.

Project cost (September 1985 estimate): Z 110 million

Financing (09/85)

Financing to be sought from external or local sources.

6.2.5 Master Plan of Lubumbashi Airport

The study of the Master Plan is intended to determine the area required and how it can be organized to meet long-term requirements.

Cost of the project: B.Fr. 30 million.

Financing

One donor (Belgian Government through the ADB) is prepared to finance the project up to B.Fr. 30 million (pending letter of intent from the Executive Council).

6.2.6 Development of the Lubumbashi Airport-Strengthening and Extension of Runway

This project will make it possible for the airport to take heavy carriers like the DC10-30.

Project cost (September 1985 estimate)

Operations to be carried out (after completion of the first phase financed by the 1986 capital budget): Z 240 million.

Financing (09/85):

Z 190 million to be sought from external sources;
Z 50 million from local sources.

6.2.7 Strengthening of the Runway at the Kinshasa/N'Djili Airport and Renewal of Radio and Light Aids

Reinforcement of the runway by applying several asphaltic treatments, will bring the bearing capacity to the required level and put the runway, which is gradually deteriorating because of its age and inadequacies, in shape. Reduction of the surface area to be renovated (3,700 x 45m out of a 4,700 x 60m runway) implies the removal and replacement of electronic radio and light aids.

Project cost (September 1985 estimate):

Z 600 million including:

Civil works: 500 million
Equipment: 100 million

Financing (09/85)

External financing to be sought in the form of a loan: Z 480 million
Local financing: Z 120 million

6.2.8 Construction of an International Passenger Terminal at the Kinshasa/N'Djili Airport

The commissioning, at the beginning of the second Five-Year Plan, of an extension of present terminal facilities which will soon reach saturation point because of the growth of passenger traffic, will not be possible unless the extension project is designed, implemented and financed during the first plan (1986-1990).

For technical reasons and expediency, the best solution would be to build a separate terminal complex (building, parking areas, roads and various networks, etc.) for international passengers. The present airport could then accommodate domestic passenger traffic adequately on a medium term basis.

Project cost (September 1985 estimate)

Z 1,000 million, of which:
- Z 720 million for the building (12,000 m^2
- Z 280 million for infrastructures (parking) areas, roads and other networks), or

- engineering studies and projects: Z 70 million
- works (including inspection and control): Z 930 million.

Financing (09/85) from 1987 to 1990

External financing to be sought in the form of a loan: Z 800 million (the CCCE has been approached);

Local financing: Z 200 million.

6.2.9 Extension and Strengthening of the Bukavu Airport Runway

The aim is to extend the runway by 700 m to accommodate the B737.

Project cost (September 1985 estimate)

Remaining works to be carried out (after completion of the first phase financed by the 1986 capital budget up to a maximum of Z 65 million) amount to Z 305 million.

Financing (09/85)

External financing to be sought: Z 296 million
Local financing: Z 19 million

6.2.10 Extension and Strengthening of the Bunia Airport Runway

This on-going project comprises the extension of the runway by 400 m, the rehabilitation of the present runway, various detour works (deviation of the H.V. line) and accommodation of the B737.

Project cost (September 1985 estimate)

Remaining works to be implemented (after completion of the first phase financed by the 1986 capital budget to the tune of Z 25 million, will cost Z 287 million.

Financing (09/85)

External financing to be sought: Z 230 million
Local financing: Z 57 million

E/ECA/TRANS/38

SECOND ZAIRE ROUND-TABLE

VOLUME II

(f) MARITIME FREIGHT CO-ORDINATION (OGEFREM)

7. OGEFREM

7.1 Priority Projects of the Five-Year Plan for Which Financing is to be sought

The two projects which are listed in greater detail on the next page are projects for which the Office Zairois de Gestion du Fret Maritime (OGEFREM) is seeking external financing.

7.1.1 Marine centre

Total cost of the project is estimated at Z 240,000,000.

7.1.2 Human resources

Total cost of the project is estimated at Z 3,933,000.

Implementation of this project began during the first five months of 1986 at a cost of Z 368,110.

Project Identification	Description	Duration	Beg.
- Marine Centre	- OGEFREM building will house an important centre whose functions will be: - to collect documentation on maritime transport, foreign trade by sea, international maritime conventions and agreements. - to study and appraise investment projects of companies in transport sector. - propose legislation to adapt Zaire's maritime laws to international realities - direct the policy of the merchant fleet.	3 years	1987
- Human Resources	- Training of senior and technical staff from the various departments of the OGEFREM through training courses in Zaire and abroad. - Call on experts from similar bodies and specialized agencies of the UN involved in training, research or the financing of the maritime transport sector.	5 years	1986

- End	Financing	Project Cost	Implementation First 5 months 1986
- 1989	-OGEFREM -Chinese Technical assistance	Z 240,000,000	--
-- 1990	OGEFREM	Z 3,933,000	

SECOND ZAIRE ROUND-TABLE

VOLUME II

(g) RAILWAYS AND RAIL TRANSPORT (SNCZ)

8. SNCZ

8.1 Status of Projects Selected During the First Round-Table Held in Kinshasa on 28 and 29 June 1983

Project No. 1: First SNCZ Railway Project

(a) Tracks: Nominal Amount: $32,500.00
Amount Disbursed: $21,595.00
Anticipated: Laying of 210 km of tracks
Completed: 230 km of rail
120,000 VW Sleepers
250,000 MN Sleepers

(b) Spare parts

- Nominal amount: $28,000,000
- Amount disbursed: $11,700,000

(c) Sundry equipment

- Nominal amount: $10,000,000
- Amount disbursed: $ 8,025,000

(d) Ilebo Port:
- Nominal amount: $ 3,100,000
- Amount disbursed: Nil

This project was implemented under state supervision with local financing

(e) Amenities

- Nominal amount: $ 2,000,000
- Amount disbursed: Nil

(f) Training
- Nominal amount: $ 2,500,000
- Amount disbursed: 2,350,000

Project No. 2 and 3: Repair of 990 km of tracks

- Nominal amount: $166,600,000

This project feacures in various project profiles of the SNCZ 1986-1990 five-Year Plan as indicated below:

Tracks:	Profile No. 19.1100 and 19.2100
Track laying equipment:	Profile No. 19.5204
Quarry equipment:	Profile No. 13.5200

It has not been implemented owing to lack of financing.

Project No. 4: Procurement of rolling stock and spare parts

- Nominal amount: $ 36,700,000
- Amount disbursed:

. 19 shunting locomotives:

* Initially they were to be procured with a loan from the Saudi Fund (9). The order was cancelled following this donor's withdrawal.

. 4 shunting locomotives (northern region):

* Project was abandoned following a fall in traffic and re-assignment of existing locomotives.

. 8 line locomotives:

* Procurement of 24 secondhand locomotives with local financing.

. Spare parts: envisaged under the second SNCZ railway project.

. Trailer stock: procurement of 175 coal wagons with a Belgian loan.

. Hopper wagons: Procurement of 335 secondhand wagons with funds from GECAMINES.

. Bogie replacement programme: being implemented with local financing. Equipment purchased. Replacement programme will take off with rehabilitation of the fleet of wagons.

. Roller bearing axle boxes: Part of the equipment bought with local financing. Balance envisaged for 2nd railway project.

. RS and RC telephone exchanges: RC equipment has been procured and installed; the RS equipment is now being procured with local financing.

. Handling equipment: not procured following withdrawal of Saudi Fund. Part of the equipment purchased with local financing: 12 cranes on wheels now in operation.

Project No. 10: Procurement of Road Transport Equipment (R.E. and R.N.)

- Normal amount: $8,600,000

. 12 buses: project postponed

. 45 trucks: 12 trucks were purchased for the RN with local financing

. 15 trailer trucks: purchased in 1985 and put into service.

. 40 semi-trailers: project postponed pending financing.

. 30 10-T trailers: procurement of 15 units with trailer trucks.

. 3 semi-trailer tanks: project abandoned.

. Replacement of downgraded vehicles in 1984 and 1985: project postponed.

Project No. 18: Training Programmes for Zairian Staff

- Normal amount: $ 1,600,000 (foreign)
  Z 1,000,000 (Zaires)

- Amount disbursed: $ 1,340,000 (IDA loan)

(a) Activities carried out

. 74 agents were trained in various fields in Belgium, Canada; and 1,097 were trained locally at various SNCZ training centres in Zaire.

. Procurement of teaching materials for the various SNCZ training centres. Some materials are being ordered under the first SNCZ railway project and others are being requested under the second project.

(b) On-going activities

. Training of eight agents in Belgium, France, Kenya and Switzerland.

. Some equipment currently being ordered under the first railway project and some requested under the 2nd project.

Project No. 45: Extension of the ILEBO Port

- Nominal amount: $ 48,150,000 (Foreign exchange)
  $ 3,600,000 (Zaires)

. SNCZ completed the 80 m extension of the quay with local financing.

. The remaining 220 km has been postponed to beyond 1990.

Project No. 49: Supply of equipment

- Nominal amount: $ 31,000,000 (Foreign exchange)
  $ 1,700,000 (Zaires)

Since this project concerns the third phase of the rehabilitation programme, it is not envisaged under the 1986-1990 Five-Year Plan.

Project No. 50: Electrification of 285 km of Railway Lines

- Nominal amount: $ 65,600,000 (Foreign exchange)
  $ 29,400,000 (Zaires)

Project postponed beyond 1990 owing to lack of financing (non-priority).

Project No. 54: Feasibility Study on the ILEBO-KINSHASA Line

- Nominal amount: $ 2,000,000

This project is contained in the 1986-1990 Five-Year Plan.

8.2 Priority Projects of the Five-Year Plan for Which Financing is to be Sought

There are 28 main projects for which SNCZ is seeking financing (cf. their profiles attached hereto).

The total sum of these projects is rounded off to US$ 62,233 x 10 (see table in following pages.

PROJECT PROFILE	PROJECT TITLE	YEAR	AMOUNT (000 $)	TOTAL (000 $)
13.5200	Ballast-pit equipment	1990	688.00	688.00
16.5200	Voie Nationale. Mechanized rail lubricators	1987 1988 1989 1990	48.40 56.80 56.80 56.80	218.80
19.100	RS - Renewal of main line	1987 1988 1989 1990	1,216.00 3,324.00 1,564.00 1,188.00	7,292.00
19.2100	RC - Renewal of main line	1987 1988 1989 1990	2,972.00 3,436.00 2,110.00 3,928.00	12,446.00
19.2301	RC - Improvement of the track	1988 1989 1990	200.00 200.00 200.00	600.00
19.5202	Mechanized equipment for track maintenance	1987 1988 1989	750.00 430.00 1,300.00	2,480.00
19.5204	Handling equipment for track renewal	1987 1988	675.00 255.00	930.00
19.5205	Rehabilitation of mechanized equipment for track maintenance	1988 1989 1990	256.00 280.00 222.00	758.00
19.5206	Mechanized + manual tools for track workshop	1988 1989 1990	205.00 205.00 206.00	616.00
19.600	Feasibility ILEBO - KINSHASA line	1987	180.00	180.00
33.5100	Study and implementation of projects of the telecommunications master plan	1987 1988 1989 1990	540.00 540.00 540.00 540.00	2,160.00
42.5100	Replacement of vehicles	1986 1988	856.30 856.30	1,712.60

PROJECT PROFILE	TITLE	YEAR	AMOUNT (000 $)	TOTAL (000 $)
43.5102	Light lifting and handling machinery	1986 1987	66.28 57.14	123.42
43.5103	Cranes and automatic lifting gear	1986 1988	1,170.00 1,170.00	2,340.00
48.0101	Machine tools manufacturing workshops	1987 1988	780.00 500.00	1,280.00
48.5300	Sundry electrical workshop equipment	1986 1987 1988	300.00 900.00 600.00	1,800.00
50.1102	Procurement of 20 JNR electric locomotives	1986	7,293.00	7,293.00
50.5106	Rehabilitation of HENSCHELL locomotives	1986	191.00	191.00
51.5100	Rehabilitation of wagon fleet	1989 1990	3,267.00 3,901.00	7,168.00
51.5200	Purchase of 75 hopper ballast wagons	1987	4,284.00	4,284.00
51.5400	Procurement and installation of roller bearing	1987 1988 1989	79.78 212.90 212.90	505.58
51.5500	Acquisition and installation of compressed air brakes	1989 1990	645.70 645.70	
51.5600	Construction of 220 wagons	1989 1990	623.40 623.40	1,246.80
55.3200	Courrier lugboat, middle reaches	1987	820.00	820.00
55.3300	Lake Tanganyika	1987	2,640.00	2,640.00
62.1200	RS - Lubudi - 3 rd phase sub-station	1988 1989 1990	96.00 96.00 191.00	383.00
82.0100	Central computer (HARD and SOFT)	1988 1989	335.00 370.00	705.00
82.5200	Micro-computer and computeried office equipment	1987	80.00	80.00
	TOTAL Rounded off to US $ 62,233			

SECOND ZAIRE ROUND-TABLE

VOLUME II

(h) HIGHWAYS
(OR)

ROAD TRANSPORT

ROUNDTABLE ORGANIZED BY ECA

The road policy was defined by the Executive Council in the 1986-1990 Five-year Plan. It encompasses the following three areas listed according to priority:

1. Maintenance of the existing network

2. Improvement of infrastructures

3. New construction

The first three years of this Five-year plan coincide with the 1986-1988 6th Road Project which was negotiated with a group of donors for which financing has been secured in full.

This 6th Road Project estimated at US $415 million including 230 million in foreign exchange is now being implemented. It had been submitted to international donors at a succession of roundtables organized by ECA in 1983 and by the World Bank within the framework of the Consultative Group for Zaire.

A Seventh Road Project will follow in 1989. No financing has been secured so far for any of the projects contained in the Five-year Plan for 1985 - 1990 which will be included in the Seventh Road Project. Considering the time it takes on the average to secure the release of international funds, it is essential to start looking for financing now for the various components of the Seventh project by seizing the opportunity of the forthcoming roundtable to inform the donors.

The projects requiring financing may be listed in the following order of priority.

1. Projects contained in the Five-year Plan for 1989-1990

2. Projects not included in the Five-year Plan, i.e. for the period beyond 1990.

The list of projects which should be negotiated within the context of a seventh road project for 1989-1991 and submitted to the donors during this roundtable comprises:

Priority 1: maintenance of the network (contained in the Five-year Plan)
- Project Profile No.1: Routine maintenance

Priority 2: Improvement of infrastructure (contained in the Five-year Plan)

- Project profile No. 2: semi-permanent bridges programme
- Project profile No. 3: Ferry programme
- Project profile No. 4: New construction - old projects Valikale-Hambo section

Priority 3: Improvement of infrastructrures (not included in Five-year Plan)

- Project profile No. 5: Repair of the bitumen-surfaced Kisangani-Pene-Tungo section
  Project Profile No. 6: Repair of the bitumen-surfaced Kindu-Kalima section

Priority 4: New construction (not included in the Five-year Plan) New Projects;

- Project profile No. 7: Trans-African Highway
- Project profile No. 9: Outlet route for Kivu
- Project profile No. 10: Outlet route for Equateur.

Project No. 1

PERMANENT ROAD MAINTENANCE

I. IDENTIFICATION

Origin of the project: Government of Zaire (Five-year Plan)

Sub-sector: Road transport

Order of priority: Priority I - Maintenance of existing network

Nature of the project: Operation of the Office des Routes (Highway Authority) and maintenance of the primary regional and national network (Seventh Road Project)

Location: Throughout the national territory

Cost of the project: $US 210 million

External financing required: $US 90 million

Duration of project: 36 months

Desirable starting date: 1989

Project initiator: Département des Travaux Public et de l'Aménagement du Territoire

Project management authority: Office des Routes

II. PROJECT DESCRIPTION

1. Aim and Objective

The objective is the same as that of the Five-year plan which is to ensure maintenance of the network as defined in the 6th road project. It covers a realistic programme limiting the network to be maintained to 400,000 km and providing for two types of maintenance operations:

- Routine maintenance of 20,000 km of national highway at $US 2,500/km;
- Light maintenance of 20,000 km of primary regional roads at $US 1,000/km.

These two types of maintenance have been defined in such a way as to ensure optimal utilization of budget appropriations.

Routine maintenance is intended to maintain the durability of the road infrastructure by offering road users good riding surface along the entire network. This type of maintenance does not only consist in repairs of superficially damaged pavement but also in reducing the wear and tear due to adverse effects of external factors (traffic, climate).

Light maintenance is intended to ensure the constant flow of vehicles by offering motorists a minimum standard of service. This type of maintenance involves operations similar to those of normal maintenance but more localised and less systematic.

2. Modalities of Implementation

The on-going 6th road project is expected to be completed at the end of December 1988. During the period 1986-1988 negotiations will be held with the World Bank and other donors on the 1989-1991 three year road programme so that the succeeding 7th road project whose main component is the maintenance programme, can be drawn up.

The modalities of the project's implementation are already known as far as the principles are concerned. Some of the maintenance operations will be effected under state supervision with the equipment and staff of the Office des Routes and the rest will be entrusted to private companies. The exact proportion of the operations that will be contracted out to companies and the terms and conditions will be defined subsequently during the project appraisal with the World Bank. On the whole, the unit costs for the preparation of the required budget remain the same.

PROJECT COMPONENTS

The annual budget estimated at $US 70 million should cover expenditure for the following items:

(a) - State-supervised maintenance operation
  . national staff

. technical assistance
. training

- State-supevised works
  . PW equipment
  . spare parts
  . fuel, lubricants
  . materials
  . manual road works

(b) Maintenance by private companies

The budgetary distribution will be determined subsequently during project appraisal.

III. PROJECT JUSTIFICATION

1. Cost of the 1989-1991 Project

	In millions of dollars		
	Z	$	T
By operation: - Routine maintenance	84	66	150
- Light maintenance	36	24	60
Total cost for three years	120	90	210

i.e. an annual budget of $US 70 million including $US 30 million in external aid

2. Economic Analysis

(a) Profitability of Maintenance

Although costs and benefits are recurrent each year, the internal rate of return may be estimated over a 15 year period of updated costs (financial interest rate 10 per cent).

Internal rate of return for:

- Routine maintenance of RN 55%
- Light maintenance of RRI 28%
- All 48%

(b) Context and Benefits

Considering the various types of traffic, the economic analysis shows that for the three categories of roads (national highway, primary regional roads and secondary regional roads) there are three types of maintenance

(routine, light and emergency maintenance) that can ensure optimum road upkeep at minimum costs. This is particularly important when there are budgetary restrictions. The internal rate of return is very high (around 48 per cent). For Zaire, this type of maintenance operation is the most viable.

II. PROJECT DESCRIPTION

1. Aim and Objective

(a) As far as maintenance is concerned, the aime is to ensure rgular maintenance of the bridges by strengthening the supports eroded by the water.

(b) As far as new construction is concerned, the aim is to continue the programme for the replacement of ferries by semi-permanent bridges. Although under the 6th Road Project, attention was focussed ont he ferries at points along the national highways, under the 1989-1991 programme, the aim is to replace the Yumbi ferry on the national highways and continue this exercise with respect to ferries along the primary regional roads.

The bridges are to be built in;

Bandundu:	- Pelende - Ganaketi	Kivu:	- Tshombe TSch - Yumbi
Upper Zaire:	- Nongo - Luala - Simi-Simi - Simba - Ango - Maliabwana	Shaba:	- Lukunde - Kalundwe
Western Kasai:	- Mwalamanda	Easterm LKasai:	- Lubetu

(c) This programme implies that for each bridges, as tudy of the site and a study for the installation of abutments and supports should be prepared in advance.

2. Nature and components of the project

- Regular maintenance of the major bridges. This involves operations to strengthen the foundations undermined by the water and repair of the surface layers to ensure imperviousness of the superstructure. This programme further provides for systematic preventive inspection of all the major bridges on the national highways.

- Construction of 14 semi-permanent bridges:

. studies of the site where ferries will be replaced by bridges: selection of site, studies for the installation of abutments and supports

. engineering studies for the bridges

. construction of metal bridge decks and supports

. supply of ACROW metal bridge decks needed for the construction of the 14 bridges.

Programme Cost

	.... millions of dollars		
	Zaire	For. Exch.	Total
Technical studies		1	1
Construction			
. bridge decks	1	4	5
. supports	3	3	6
	4	8	12

Project No. 3

1981-1991: FERRY PROGRAMME

Identification

Origin of the project: Government of Zaire (Five-year Plan)

Sub-sector: Road transport

Order of priority: Priority II - Improvement of infrastructures

Nature of the project: Development of ferry crosing points and replacement of ferries

Location: Throughout the national territory

Cost of the project: $US 6 million

External financing: $US 6 million

Duration of the project: Three years

Desirable starting date: 1989

Project initiatory: Département des Travaux Publics et Aménagement du Territoire

Project managemen authority: Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

(a) All the crossing points along the national highway will be equipped with concrete approach ramps under the preceeding 6th highway programme. Improvement operations for 1989-1991 will focus on the rehabilitation of dirt approach ramps along the regional roads where the low volume of traffic does not justify concrete approach ramps.

(b) Replacement of ferries along the national highways and regional and local roads: This project marks the end of the 10 year replacement programme which was already underway during the 4th, 5th and 6th highway programme. Under the 7th road project, the objective will be attained along the entire network: all the old ferries will be replaced and all crossing points will be served.

2. MODALITIES OF IMPLEMENTATION

The replacement of the ferries will be effected by:

- the construction of 24 dual platform ferries of 20 T at the workshops of the Office des Routes;
- the supply of large (20-35 T) ferry boats through bilateral aid (10 RFA type ferries);
- the purchase of 10 RFA type ferries.

3. PROGRAMME COST

	Z	For. Ex.	Total
- development of access facilities	1	-	1
- construction of 24 ferries	1	2	3
- 10 RFA type ferries	1	4	5
	3	6	9

4. FLEET REPLACEMENT PROGRAMME

Construction of 24 dual platform ferries of 20 T

Code	Crossing point	Road	River	Type
1/4	Kinganga	RIL	Zaire	Winch
2/7	Kobo	RIL	Bakali	Winch
2/28	Yikombo	RIL	Lutshima	Winch
2/31	Kingandu	RIL	Yambeshi	Winch
2/33	Bushongo	RIL	Lubwe	Winch
2/77	Lokolama	RIL	Lokoro	Winch
3/13	Mondombe	RIL	Tshuapa	Power
3/38	Ilali	RIL	Ilali	Winch
4/59	Amadi	RIL	Uélé	Power
4/62	Bafwabaka	RIL	Mamba	Winch
4/63	Legu	RIL	Ngayo	Winch
5/7	Lokila	RIL	Kasuku	Winch
5/13	Ikama	RIL	Yama	Winch
7/15	Babadi	RIL	Lubi	Winch
7/23	Kamonia	RIL	Longashimo	Winch
8/1	Lokania	RIL	Lokania	Winch
8/3	Elingapangu	RIL	Tsdhuapa	Winch
8/15	Kapanji	RIL	Sankuru	Winch
8/18	Itondo	RIL	Luilu	Winch
8/20	Masonji	RIL	Mhuji-Mayi	Power
8/26	Mpata	RIL	Lubilashi	Winch
8/29	Epamba	RIL	Lubilashi	Winch
8/32	Kisengwa	RIL	Lomami	Winch
2/6	Mulopokuka	RIL	Konzi	Winch

Supply of 8 35-T high power ferries (RFA)

1/2	Luozi	RRI	Zaire
1/3	Mpioka	RN	Zaire
2/61	Bagata	RN	Kwilu
2/63	Budjala	RRI	Kwilu
2/67	Pinanga	RN	Kasaï
2/71	Kutu	RN	Lukenie
4/11	Yate	RN	Lomami
4/38	Bondo	RN	Uélé

Supply of 2 50-T high power ferries (RFA) for lake navigation

2/73-1	Inongo	RN	Lake Mai-Ndombe
2/73-2	Inongo	RN	Lake Mai-Ndombe

5. ECONOMIC ANALYSIS

The ten RFA ferries will be placed along the RN and RR1 which have a traffic flow of 10 to 20 v/d. They were selected because of their technical performance and the difficult conditions of the sites where they will be operating (wide crossings, strong current). The 20 T dual-platform ferries will be placed along the RR1 and RR2 for a traffic volume of 1 to 2 v/d. These ferries will replace the old ones which are no longer safe because of their age. Replacement is indispensable since users would have to make a detour of about 150 km if there are no ferries. This explains the fundamental role of the ferries and their high profitability.

The break-even point is 3 to 4 v/day for RFA ferries and ½ v/d for the 20 T dual-platform ferries. The internal rate of return of this programme is estimated at 44 per cent.

Project No. 4

CONSTRUCTION OF A SECTION OF FEEDER ROAD FOR THE KISANGANI-BUKAVU TRANS-AFRICAN HIGHWAY (RN3)

I. IDENTIFICATION

Origin of the project	:	Zaire Government (Five-Year Plan)
Sub-sector	:	Road transport
Order of priority	:	Priority II - New construction works underway
Nature of the project	:	Construction of a feeder road for the Trans-African Highway: Walikale-Hombo
Location	:	Kivu
Cost of the project	:	US$ 23 million
External financing required	:	US$ 15 million
Duration of project	:	24 months
Desirable starting date	:	1989
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project Management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

Construction of bitumen-surfaced road along the Walikale-Hombo section.

The aim of the project is to complete asphalting of the direct Kisangani-Bukavu road to open up the Kivu and Great Lakes region by linking it directly to the river port of Kisangani.

2. NATURE AND COMPONENTS OF THE PROJECT

Length : 70 km

Summary description:

- Width of road bed : 9 m
- Width of future surface layer : 6.60 m
- Structure designed to take 13 ton axle load
- Base layer: 15 cm of soil cement or crushed materials
- Foundation: from 15 to 40 cm according to terrain
- Two-lane bridges
- Structure of bridges designed to take 32 ton train

3. JUSTIFICATION OF THE PROJECT

1. COST

Walikale - Hombo: US$ 23 million including 70 per cent in foreign exchange

It would be relevant to mention the financing secured for the Lubutu-Walikale section now under construction:

- 4th EDF : EUA 19 million
- 5th EDF : EUA 10 million
- FRG : DM 54 million
- ADB : FUA 20 million
- Zaire : 5.25 million (equivalent in Zaires)

2. ECONOMIC AND TECHNICAL ANALYSIS

Estimated traffic will be 170 v/d (80 per cent heavy duty vehicles) when the asphalted road between Kisangani and Bukavu is completed.

Asphalting of the section will reduce the cost of operating light and heavy vehicles from $0.82 to $0.33 and from $1.76 to $0.62 per km respectively. The Office des Routes estimated price elasticity of road transport demand at 1.42.

The immediate rate of return for the entire project is 13.9 per cent. On the assumption of an annual 3.5 per cent growth rate (doubling in 20 years), the internal rate of return of the project would be 17.9 per cent.

3. CONTEXT AND BENEFITS

This project which has a high rate of return will, when the asphalting of the direct Kisangani-Bukavu road is completed, give agricultural products access to consumer and export markets in the major cities.

Project No. 5

REPAIR OF A SECTION OF THE KISANGANI-BUKAVU ROAD
(feeder road of the Trans-African Highway)

I. IDENTIFICATION

Origin of the project	:	Zaire Government
Sub-sector	:	Road transport
Order of priority	:	Priority III - improvement of present facilities
Nature of the project	:	Repair of the Kisangani-Pene-Tungu section
Location	:	Upper Zaire
Cost of the project	:	US$ 9 million
External financing required	:	US$ 6 million
Duration of project	:	10 months
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

- Repair of PK 30 - PK 100 of the bitumen-surfaced Kisangani-Pene-Tungu road.

- This section forms part of the Kisangani-Bukavu road currently under constructioin and financed by EDF, FRG and ADB. This road will provide outlets for the Kivu and Great Lakes region.

2. NATURE AND COMPONENTS OF THE PROJECT

- Length : 70 km
- Scarifying, laterite regravelling and compacting
- Conventional dual layer surfacing
- Patching with mixed materials
- Cleaning of lined ditches

III. JUSTIFICATION OF THE PROJECT

1. COST : US$ 9 million, (65 per cent foreign exchange)

2. ECONOMIC AND FINANCIAL ANALYSIS

Repair of this section which is in a very terrible state will reduce the operating costs of light vehicles from $0.54/km to $0.33/km and of heavy vehicles from $0.95/km to $0.62/km. The latter represents 80 per cent of the present total traffic of 50 vehicles/day. Traffic is expected to be 150 v/d when the bitumen-surface road to Bukavu is opened. However, repair of the surface layer at a cost of US$ 120,000/km should be done within the next four years if repair of the entire base layer (estimated at $220,000/km is to be avoided. Under the circumstances, the immediate rate fo return of the project is 5 per cent. On the assumption of an annual 3.5 per cent growth rate (doubling in 20 years), the internal rate of return of the project will increase from 10 per cent, prior to completion of the Kisangani-Bukavu road, to 23 per cent after it is completed.

3. CONTEXT AND ADVANTAGE

The Kisangani-Bukavu road is the main outlet for the Kivu and Great Lakes region. It will enable this region which is rich in agriculture to transport food crops to the west of the country and the export ports. It is the main supply route for food products going to Kisangani, a regional capital of 340,000 inhabitants.

Project No. 6

REPAIR OF THE KINDU-KALIMA SECTION

I. IDENTIFICATION

Origin of the project	:	Government of Zaire
Sub-sector	:	Road transport
Order of priority	:	Priority III: Improvement of existing facilities
Nature of the project	:	Repair of the Kindu-Kalima section (92 km)
Location	:	Kivu
Cost of the project	:	US$ 11 million
External financing required	:	US$ 7 million
Duration of project	:	18 months
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

Repair of the Kindu-Kalima national highway which serves the most important mining area of the Maniema subregion.

2. NATURE AND COMPONENTS OF THE PROJECT

- Length : 92 km
- Scarifying, laterite regravelling and compacting
- Patching with mixed materials
- Cleaning of lined ditches

A technical study is necessary to determine the exact nature of work.

III. JUSTIFICATION OF THE PROJECT

1. COST : US$ 11 million (65 per cent in foreign exchange)

2. ECONOMIC AND FINANCIAL ANALYSIS

Repair of this section which is in a very poor state will help reduce the operating costs of light vehicles from $0.54/km to $0.33/km and of heavy vehicles from $0.95/km to $0.62/km. The latter vehicles represent 80 per cent of the total current traffic which is 50 vehicles per day. The present low traffic density (30 v/d) is due to fuel supply problems and the economic analysis should be based on a traffic potential of 100 v/d.

However, repair of the surface layer at $120,000/km should be done within four years if the repair of the entire base layer at a cost of $220,000/km is to be avoided.

Under the circumstances, the immediate rate of return of the project is 5 per cent

On the assumption of a 3.5 per cent annual traffic growth rate (doubling in 20 years), the internal rate of return of the project would rise to 12 per cent after repairs.

3. CONTEXT AND BENEFITS

The Kindu-Kalima road is the main outlet for the Maniema mining area. It facilitates transport of mining products to the port of Kindu.

Project No. 7

CONSTRUCTION OF DIRECTION OF THE TRANS-AFRICAN HIGHWAY (RNU)

I. IDENTIFICATION

Origin of the project	:	Government of Zaire
Sub-sector	:	Road transport
Order of priority	:	Priority IV - new construction
Nature of the project	:	Construction of a bitumen-surfaced section of 120 km between Nia-Nia and Epulu
Location	:	Upper Zaire
Cost of the project	:	$40 million
External financing required	:	$24 million
Duration of the project	:	36 months
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

Construction of a bitumen-surfaced section of 120 km along the Trans-African Highway between Nia-Nia and Epulu.

This project forms part of the Trans-African Highway project which has a twofold objective:

- to open up the northeastern part of the agricultural regions of Upper Zaire and Kivu by facilitating transport of agricultural products from farming areas to the export port of Kisangani;
- to increase intra-regional and international trade.

2. NATURE AND COMPONENTS OF THE PROJECT

- length : 120 km to be asphalted;
- the special features will be determined by the on-going technical study entrusted to the Bureau Tractionel.

The area covered by the project is made up of slopes and sags to be regravelled and surfaced. The difficult terrain combined with the devastating effects of heavy duty vehicles which ply this road often contribute to the formation of mud-pits resulting in the temporary disruption of traffic.

3. PROJECT STATUS

- feasibility study;
- technical study and bidding documents prepared by the Bureau Tractionel.

III. JUSTIFICATION OF THE PROJECT

1. COST : US$ 40 million

External financing required: 60 per cent of the total cost, i.e. US$ 24 million approximately.

2. ECONOMIC AND FINANCIAL ANALYSIS

Heavy duty vehicles represent 80 per cent of the total traffic on the Trans-African Highway which is estimated at 110 v/d (Nia-Nia-Epulu) and goes as high as 160 v/d on certain sections (Kisangani-Nia-Nia).

Construction of this road will lower operating costs for light vehicles from $0.82 to $0.33/d and for heavy vehicles from $1.76 to $0.62/d.

The Office des Routes has estimated price elasticity of road transport at 1.42.

The immediate rate of return of the project may be estimated at 10.7 per cent.

On the assumption of a 3.5 per cent annual traffic growth rate (doubling in 20 years) the internal rate of return will be 14.6 per cent. This rate does not include benefits that will accrue upon the completion of the Trans-African Highway Project of which it forms part.

3. CONTEXT AND BENEFITS

This project falls within the context of the Trans-African Highway Project. Construction of the Kisangani-Beni stretch is included in Project No. ROP-48-001 of the United Nations Transport and Communications Decade for Africa, 1978-1988.

Furthermore, within Zaire, this regional project will provide outlets for the northeastern part of the agricultural regions of Upper Zaire and Kivu by facilitating access of food crops to the consumer market and export port of Kisangani.

It is hoped that when the Nia-Nia to Epulu section is built, the Office des Routes will be able to ensure a continuous flow of traffic on the rest of the Ituri road. In fact, because of the rains and the nature of the terrain, during every rainy season this stretch of the road rapidly deteriorates to the extent of causing the occasional disruption of traffic.

It should be noted that asphalting of the middle section of a dirt road would entail considerably higher investments than if the whole stretch of road were asphalted from Kisangani.

Project No. 8

CONSTRUCTION OF A ROAD TO OPEN UP WESTERN KASAI AND EASTERN KASAI

I. IDENTIFICATION

Origin of the project	:	Government of Zaire
Sub-sector	:	Road transport
Order of priority	:	IV - new constructions
Nature of the project	:	Construction of a bitumen-surfaced road between Kananga and Mbuji-Mayi (155 km)
Location	:	The two Kasai regions
Cost of the project	:	US$ 60 million
External financing required	:	$36 million
Duration of project	:	2 years
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

- Construction of a new bitumen-surfaced road in western and eastern Kasai: Kananga-Mbuji Mayi, 155 km.

- This road forms part of the Voie Nationale Routiere.

2. SUMMARY DESCRIPTION

The economic and technical studies for the road are available. They were prepared by the DESSAU Firm in 1980.

- Width of road bed : 9 m
- Width of surface layer : 6.60 m
- Structure designed for 13 ton axle load
  . Base layer : clay concrete and soil cement, 15 to 18 cm thick
  . Surfacing: mixed materials 4 cm thick after compacting
- two-lane bridge, with pavement designed to take a 32 ton train.

3. PROJECT STATUS

The feasibility study was prepared with IDA financing and the technical study and bidding documents with CIDA (Canada) financing. They were prepared in 1979 by the DESSAU firm.

II. JUSTIFICATION OF THE PROJECT

1. COST OF THE PROJECT

Kananga-Mbuji-Mayi 155 km: US$ 60 million.

Foreign exchange costs are estimated at 60 per cent of the total project cost.

2. ECONOMIC BENEFITS

(a) At regional level:

The road will facilitate exchanges between the two regional capitals of Kananga (800,000 inhabitants) and Mbuji-Mayi (500,000 inhbitants).

(b) At national level:

The road is one of the most economically viable sections of the Voie Nationale Routiere linking Shaba with the Atlantic Ocean.

(c) At international level:

This Voie Nationale Routiere is a feeder road for the Windhoek-Tripoli Trans-Central African Highway.

3. ECONOMIC AND FINANCIAL ANALYSIS

The present earth road carries a traffic of 100 v/d with heavy vehicles accounting for 80 per cent. After the network is improved, traffic potential will be 180 v/d, according to estimates.

This project will be profitable because of the savings on operating costs of vehicles. The operating cost of heavy vehicles will drop from $1.76/km to $0.62/km and that of light vehicles from $0.82/km to $0.33/km.

The Office des Routes has estimated price elasticity of road transport demand at 1.42.

The immediate rate of return is estimated at 20 per cent.

On the assumption of a 3.5 per cent annual growth rate (doubling in 20 years), the internal rate of return will be 24 per cent.

Project No. 9

CONSTRUCTION OF AN OUTLET ROAD FOR KIVU

I. IDENTIFICATION

Origin of the project	:	Government of Zaire
Sub-sector	:	Road transport
Order of priority	:	Priority IV - new construction
Nature of the project	:	Construction of a bitumen-surfaced road between Goma and Rwindi Park
Location	:	Kivu
Cost of the project	:	$48 million
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

. Construction of a bitumen-surfaced road between Goma and Rwindi (120 km).

. Opening up of northeastern Kivu.

2. NATURE AND COMPONENTS OF THE PROJECT

. Length : 120 km
. Width of surface layer : 6.60 m
. Structure designed to take 13 ton axle loa
- Base layer: clay concrete and soil cement, 15 to 18 cm thick
- dual surface layer

3. PROJECT STATUS

. feasibility study
. technical study carried out by the C. LOTTI Firm in 1974 with EDF financing

III. JUSTIFICATION OF THE PROJECT

1. COST: US$ 48 million including 60 per cent in foreign exchange.

2. ECONOMIC AND FINANCIAL ANALYSIS

This project will reduce the operating costs of light vehicles from $0.82 to $0.33/km and of heavy vehicles from $1.76 to $0.62/km. The latter make up 80 per cent of the traffic which is estimated at 100 v/d. The Office des Routes has estimated the price elasticity of road transport demand at 1.42.

The immediate rate of return of the project is estimated at 10 per cent. On the assumption of a 3.5 per cent annual growth (doubling in 20 years), the internal rate of return will be 14 per cent.

3. CONTEXT AND BENEFITS

This bitumen-surfaced road will open up northeastern Kivu by providing access for agricultural commodities to the consumer and export markets.

It will also help to develop tourism in the Kivu region.

Project No. 10

CONSTRUCTION OF AN OUTLET ROAD FOR EQUATEUR

I. IDENTIFICATION

Origin of the project	:	Government of Zaire (Five-Year Plan)
Sub-sector	:	Road transport
Order of priority	:	Priority IV - new construction
Nature of the project	:	Construction of a bitumen-surfaced road from Gemena to Akula (105 km)
Location	:	Equateur
Cost of the project	:	US$ 39 million
External financing required	:	US$ 25 million
Duration of the project	:	24 months
Desirable starting date	:	1991
Project initiator	:	Departement des Travaux Publics et de l'Amenagement du Territoire
Project management authority	:	Office des Routes

II. PROJECT DESCRIPTION

1. AIM AND OBJECTIVE

Construction of a bitumen-surfaced road and a 10 km embankment. The embankment is currently under construction and is financed by EDF.

Opening up the Gemena region via the port of Akula to facilitate access of agricultural commodities from the subregion of Ubangui to the export ports of Kinshasa and Matadi.

2. NATURE AND COMPONENTS

- width of road : 105 km
- Embankment : 10 km
- Length of road bed : 9 m
- Width of surface layer : 6.60 m
- Structure designed to take 13 ton axle load
- Base layer: clay concrete and soil cement
- Other features to be determined by an on-going study

III. JUSTIFICATION OF THE PROJECT

1. COST

. Embankment (10 km) : US$ 10 million
. Financing amounting to EUA 7 million has made it possible to begin work on the embankment

. Road of 105 km: US$ 39 million
Financing is to be sought

2. ECONOMIC AND FINANCIAL ANALYSIS

The whole project is expected to be profitable because of the savings on operating costs of light vehicles which will drop from $0.82 to $0.33/km and heavy vehicles (from $1.76 to $0.62/km). The heavy vehicles make up 80 per cent of the traffic which is estimated at 55 v/d. The Office des Routes has estimated price elasticity of transport demand at 1.42.

The immediate rate of return of the project is 5.1 per cent.

On the assumption of a 3.5 per cent annual growth (doubling in 20 years), the internal rate of return would be 8.8 per cent.

3. CONTEXT AND BENEFITS

This project will facilitate transport of food crops from the Ubangui subregion via the Port of Akula to consumer markets (Kinshasa) and export ports (Kinshasa, Matadi) thus providing outlets for the Gemena region.